Mexborough ST John the Baptist C of E Primary School - Science

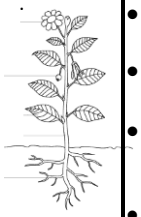
Topic: Plants | Year: 3 | Strand: Biology

What should I already know?

- Which things are living and which are not.
- A variety of **common wild** and **garden plants**, including **deciduous** and **evergreen trees** and how to identify them.
- The **structure** of **common flowering plants**, including **trees** (including **leaves, flowers, fruits, roots, bulbs, seeds, stem, trunks** and **branches**)
- **Seeds** and **bulbs** grow into **mature** plants
- **Plants** need water, light and a suitable **temperature** to grow and stay **healthy**.
- Different **vegetation** belts and **climate zones** around the world
- **Plants** and animals depend on each other to survive.

What will I know by the end of the unit?

The functions of the different parts of flower, seed, leaf, stem, roots



- The **petals** on a **flower** are usually bright - this is to attract bees and other insects so that they can collect **pollen** to make **seeds.**
- The **seeds** are then able to grow to make new **plants**. This is called **germination.**
- **Leaves** use **carbon dioxide** and sunlight to make food for the **plant**.
- The **stem** carries water and other **nutrients** from the **roots** to the rest of the **plant**. **Leaves** use this water to make food.
- The **stem** also helps to keep the **plant** upright so that the sunlight can reach it easier.
- The **roots** help to 'anchor' the **plant** in the **soil**. They also **absorb** water and **nutrients** from the **soil** for the **stem** to carry to the rest of the **plant**.

What do different plants need to grow?

- air
- water
- sunlight
- **nutrients** from the **soil**
- room to grow
- suitable **temperature**

The amount of each of these may vary depending on the type of **plant**. For example, cacti need less water than other **plants**.

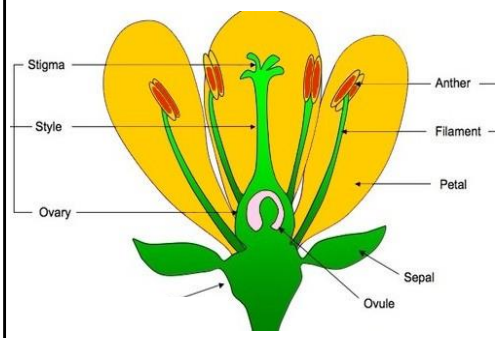
How is water transported within plants?

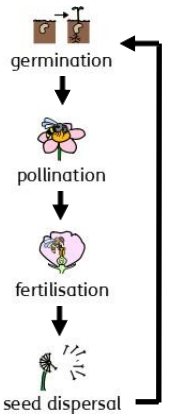
- Water is **absorbed** from the **soil** by the **roots.**
- It is then **transported** from the **roots** to the **stem** and then to the rest of the **plant**.

How do flowers help in the life cycle of flowering plants?

- The **flower's** job is to create **seeds** so that new **plants** can grow.
- **Pollination** occurs when **pollen** from the **anther** is transferred to the **stigma** by bees and other insects.
- The **pollen** then travels down and meets the **ovule.** When this happens, **seeds** are formed - this is called **fertilisation.**
- **Seeds** are then **dispersed** so that **germination** can begin again.

Diagrams





Vocabulary

absorb	soak up or take in
anther	the part of a **stamen** that produces and releases the **pollen**
branches	parts that grow out from the tree trunk and have **leaves**, **flowers**, or **fruit** growing on them
bulb	a root shaped like an onion that grows into a **flower** or **plant**
carbon dioxide	a gas produced by animals and people breathing out
climate zone	sections of the Earth that are divided according to the climate. There are three main climate zones; polar, temperate and tropical.
common	something that is found in large numbers or it happens often
deciduous	a **tree** that loses its leaves in the autumn every year
dispersed	scattered, separated, or spread through a large area
dissect	to carefully cut something up in order to examine it scientifically
evergreen	a **tree** or bush which has green **leaves** all the year round
fertilisation	in **plants**, where **pollen** meets the **ovule** to form a **seed**
fertiliser	a substance that is added to soil in order to make **plants** grow more successfully
flower	the part of a **plant** which is often brightly coloured and grows at the end of a **stem**
flowering	**trees** or **plants** which produce **flowers**
fruit	something which grows on a **tree** or bush and which contains **seeds** or a stone covered by a substance that you can eat
function	a useful thing that something does
garden	a piece of land next to a house, with **flowers**, vegetables, other **plants**, and often grass
germination	if a **seed germinates** or if it is **germinated**, it starts to grow
healthy	well and not suffering from any illness
leaf / leaves	the parts of a tree or plant that are flat, thin, and usually green
life cycle	the series of changes that an animal or **plant** passes through from the beginning of its life until its death
mature	When something **matures**, it is fully developed
nutrients	substances that help **plants** and animals to grow
ovule	a small egg
petal	thin coloured or white parts which form part of the **flower**
plant	a living thing that grows in the earth and has a **stem, leaves**, and **roots**
pollen	a fine powder produced by **flowers**. It **fertilises** other **flowers** of the same species so that they produce **seeds**
pollination	To **pollinate** a plant or tree means to **fertilise** it with **pollen**. This is often done by insects
roots	the parts of a **plant** that grow under the ground
seed	the small, hard part from which a new **plant** grows
stem	the thin, upright part of a **plant** on which the **flowers** and **leaves** grow
stigma	the top of the centre part of a **flower** which takes in **pollen**
structure	the way in which something is built or made
temperature	a measure of how hot or cold something is
transported	taking something from one place to another
tree	a tall **plant** that has a hard **trunk**, **branches**, and **leaves**
trunk	the large main **stem** from which the **branches** grow
vegetation	**plants**, **trees** and **flowers**
wild	animals or **plants** that live or grow in natural surroundings and are not looked after by people

Investigate!

- Compare the effect of different factors in **plant** growth (e.g. the amount of water, the amount of light and the amount of **fertiliser**). Discuss what would make this a fair test.
- Place white carnations in dyed water to observe how plants **transport** water.
- Discover how **seeds** are formed by observing **plant life cycles**.
- **Dissect fruits** to observe their structure and use this to explain how **seeds** are **dispersed**.
- **Dissect** a **flower** and identify each of the different parts that help with **fertilisation.**